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Wolfman's Guide for Diagnosing the Radiator Cooling Fan

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09-17-2004, 12:30 PM #1

David 93 SL2m
 Master Member

 Join Date: May 2000
 Location: North America
 Posts: 3,594
[David 93 SL2m's Photos](#)
 2004 VUE 2.2L
 2007 ION-3 Sedan

Wolfman's Guide for Diagnosing the Radiator Cooling Fan
 Does your radiator cooling fan appear to never come on?
 First, check the fuse for the radiator cooling fan.
 Second, check the relay for the radiator cooling fan.
 Third, follow **Wolfman's** guide:
 1. Disconnect the ECTS (Engine Coolant Temperature Sensor) connector.
 2. Connect the two contacts inside the connector together with the two ends of a small paper clip.
 3. Then turn on the car (either start the engine or turn the key to "RUN" without starting the engine).
 Okay, is the radiator fan running now?
 • If the radiator cooling fan turned on then replace the ECTS. (See [Changing the ECTS \(Engine Coolant Temp Sensor\)](#) for **Wolfman's** directions and [Change the ECTS Coolant Temp Sensor w/pics](#) for **auxmike's** pictures.)
 • If the radiator cooling fan did not turn on then probably the radiator cooling fan itself is bad or the wiring for the radiator cooling fan is bad.
 ...
 Current
 • 2004 VUE 124K
 • 2007 ION3 112K
 ...
 Past
 • 1993 SL2 212K
 • 1993 SC2 140K
 • 1996 SC2 157K
 • 1996 SC2 126K
 • 2001 SC2, 145K
 • 2002 L200 20K
 • 2002 SL1 129K
 ...

REWARD EXCELLENCE!
 Rate the quality of this post and help *David 93 SL2m* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

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04-15-2005, 06:22 AM #2

David 93 SL2m
 Master Member

 Join Date: May 2000
 Location: North America
 Posts: 3,594

Re: Wolfman's Guide for Diagnosing the Radiator Cooling Fan
 I forgot to mention that turning the air conditioner on while the engine is running should cause the radiator cooling fan to start running.
 ...
 Current
 • 2004 VUE 124K
 • 2007 ION3 112K

[David 93 SL2m's Photos](#)

2004 VUE 2.2L
2007 ION-3 Sedan

...

Past

- 1993 SL2 212K
- 1993 SC2 140K
- 1996 SC2 157K
- 1996 SC2 126K
- 2001 SC2, 145K
- 2002 L200 20K
- 2002 SL1 129K

...

REWARD EXCELLENCE!

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04-15-2005, 04:30 PM

#3

[texInghorn](#)
Junior Member

Join Date: Mar 2005
Location: Round Rock, TX
Posts: 37

1992 SL

Re: Wolfman's Guide for Diagnosing the Radiator Cooling Fan

Also jumping terminals A and B on an OBD 1 ALDL will start the radiator cooling fan.

REWARD EXCELLENCE!

Rate the quality of this post and help *texInghorn* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

06-11-2005, 12:12 PM

#4

[Bill Z](#)
New Member

Join Date: Jun 2005
Posts: 3

Re: Wolfman's Guide for Diagnosing the Radiator Cooling Fan

My Saturn is a 99 4 door with 2 OHC. The radiator fan turns on with the AC. Without the AC the car over heats at stop lights.

I used a scanning tool and the 2 wire temp sensor seems to be telling the ECM what the temp is. I can see it going from 80 to 193 degrees over about 10 minutes of idling in the garage. The dash temp gauge only shows 1/4 and never more.

I disconnected the 2 wire sending unit and the temp on the ECM went to something like -40. I reconnected and it displayed a temp. I disconnected the one wire sending unit and the temp gauge on the dasy went to zero.

Since the AC makes the fan work, the fan doesn't have a problem. The 30 amp fuse is good. The AC relay is working. The fan relay is working. By the way, I swapped the AC and fan relay just to see. No change.

So, what makes the fan turn on with out the AC on? Where do I check next?
What did I miss?

REWARD EXCELLENCE!

Rate the quality of this post and help *Bill Z* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

06-13-2005, 12:36 AM

#5

[sierrap615](#)
Master Member

Join Date: Aug 2003
Location: Downers Grove, Illinois
Posts: 2,538

[sierrap615's Photos](#)

Re: Wolfman's Guide for Diagnosing the Radiator Cooling Fan

the fan relay is directly controlled by the PCM and is only controlled by the PCM.

the PCM will turn on the fan if it sees:

the PCM is in diagnostic mode

-OR-

the ECT reads above appox. 220 F
AND
the engine is running

-OR-

the A/C request is on(or for appox. 40 seconds after the A/C is turned off)
AND
the engine is running

if the ECT never read above 193 F it is most likely bad. -40 is the standard minimum reading for all temperator sensors that i know of.

REWARD EXCELLENCE!

Rate the quality of this post and help *sierrap615* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

07-06-2005, 04:13 PM #6 93goldsl2 Member Join Date: Jun 2005 Location: NJ Posts: 137 93goldsl2's Photos 1993 SL2	Re: Wolfman's Guide for Diagnosing the Radiator Cooling Fan Don't overlook the possibility of a bad ground for the fan motor. One side of the fan motor plug should be +12V with AC on or at 'hot' temperature (decided by PCM via ECTS I guess) and the other should be grounded. For me, for some reason there was no path to ground. I ran a jumper wire (make sure you use similar size wire to what's on there...) to the body and it fixed my problem. REWARD EXCELLENCE! Rate the quality of this post and help 93goldsl2 reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!
09-23-2005, 06:03 AM #7 briknope New Member Join Date: Sep 2005 Posts: 1	Re: Wolfman's Guide for Diagnosing the Radiator Cooling Fan I get no fan operation whatsoever even with the ac switched on, and the car starts to overheat while it is ideling. I noticed this problem when the A/C started to blow hot. When the car is moving, the Air Conditioning blows cold again. I wiggled wires going to the fan, while the AC was switched on, and still nothing. This has probably been this way for quite some time, as my wife drives it most of the time, and doesn't tell me much. Oh I forgot to mention, this is on a 96 SL1. Can I assume that the fan motor is a goner? Fuses and relays seem fine, I switched the AC relay with the Fan relay (they appear to be the same according to the numbers on both) and got the same result. I hate to start throwing parts at the car hoping to fix it like coolant temp sensor and everything else that "could" be bad. I don't think its the sensor, seeing as how the fan doesn't work with the air on either. I get no check engine lights or "service" light. Can I assume that there is nothing wring with the computer? Hope someone can enlighten me on this one. I'm betting on the fan motor, unless someone can advise differently. REWARD EXCELLENCE! Rate the quality of this post and help briknope reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!
10-02-2005, 02:02 PM #8 jfstringer New Member Join Date: Oct 2005 Posts: 6	Re: Wolfman's Guide for Diagnosing the Radiator Cooling Fan briknope, I have the same problem you have, but unfortunately I'm not any closer to figuring it out. Mine is a '98 SL1 with standard transmission and about 107K miles. I noticed today that when starting a cold engine and letting the car sit stationary with the A/C on, the cooling fan runs for a minute or two, and the A/C works fine. After the engine begins to heat up, the cooling fan and A/C both cut off. The cooling fan doesn't come back on, but the A/C switches on and off a few times for shorter durations each successive time until finally it stops completely unless I get the car above 20 to 30 miles per hour. At first I thought the computer simply was cutting the A/C off as the engine got too hot, but as long as the car is moving over 20mph or so, the A/C will come on regardless of how hot the engine is. Also the first time the A/C cuts out, the temp gauge shows the needle just under the 1/4 mark. It seems to me that the A/C cuts off because the fan cuts off and has nothing to do with the engine temp. I, too, have checked fuses, tried "wiggling wires," cleaning electrical connections, and swapping relays to no avail. I'm going to pull the fan/motor assembly out in a few minutes to test it directly. I'll let you know what I find out. If you (or anyone else) come up with anything, please let me know. Thanks! REWARD EXCELLENCE! Rate the quality of this post and help jfstringer reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!
10-02-2005, 03:09 PM #9 Rogn38 Member Join Date: Dec 2004 Location: Halifax, N.S, Canada Posts: 103 Rogn38's Photos 1992 SL2	Re: Wolfman's Guide for Diagnosing the Radiator Cooling Fan When I bought my 92'SL2 from a friend of mine, he toldme that the cooling fan does not come on when the engine is hot, so he wired the fan directly to a switch. Since reading this fourm, I tested the ECTS as described, using a paper clip, but the fan still failed to come on. Now I know the fan is ok, as it works via the installed manual switch. Does anyone have any other suggestions as to how to get the cooling fan operating as designed? REWARD EXCELLENCE! Rate the quality of this post and help Rogn38 reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!
10-02-2005, 03:41 PM #10 jfstringer New Member Join Date: Oct 2005 Posts: 6	Re: Wolfman's Guide for Diagnosing the Radiator Cooling Fan Udate for briknope: Just finished pulling the fan/motor housing out and running tests per the repair manual. With car running and A/C turned on, I'm getting full voltage at the positive fan motor wire (light blue on mine). Running power through the ground shows no problems there either. Tried jumping directly from battery terminals to fan motor with no

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Zeebins

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